

Road Alteration - Lake Shore Boulevard East / Lower Jarvis Street / Gardiner Expressway Lower Jarvis Ramp

Date: May 10, 2021

To: Infrastructure and Environment Committee

From: General Manager, Transportation Services

Wards: Ward 10 - Spadina-Fort York

SUMMARY

City Council, at its meeting on December 16, 17 and 18, 2020, authorized staff to enter a Project Delivery Agreement with Waterfront Toronto to reconstruct Lake Shore Boulevard East, from the Don River to Carlaw Avenue, in accordance with the approved Environmental Assessment for the Port Lands Flood Protection project. Waterfront Toronto will also remove the Gardiner access ramps at Logan Avenue, as part of the Council-adopted Gardiner Strategic Rehabilitation Plan.

Transportation Services is requesting authorization to reconfigure the northerly eastbound lane on Lake Shore Boulevard East, between Lower Jarvis Street and a point 147 metres west, to operate as a second eastbound through lane on the eastbound off-ramp. As a result of the lane reconfiguration and planned signal timing changes, the weaving manoeuvre from eastbound Lake Shore Boulevard East to the Gardiner Expressway on-ramp will conflict with the off-ramp through traffic. Therefore, this report also requests authorization to close the eastbound Gardiner on-ramp from Lower Jarvis Street.

Based on the traffic impact analysis, these recommendations will accommodate the expected increase in traffic from the removal of the Gardiner East access ramps to Logan Avenue and mitigate excessive queuing on the Lower Jarvis Street off-ramp.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council authorize the alteration of Lake Shore Boulevard East, from Lower Jarvis Street and a point 147 metres west, to remove the existing median island dividing Lake Shore Boulevard East and the eastbound Gardiner off-ramp and construction of a new

median island to allow for a second eastbound through lane on the off-ramp at Lower Jarvis Street, generally as shown in Attachment 1, Drawing No. 421T-0120, dated March 2021.

2. City Council, in conjunction with the completion of road alteration set out in Recommendation 1, authorize the closure of the eastbound Gardiner on-ramp from Lower Jarvis Street.

FINANCIAL IMPACT

The cost associated with the proposed road alteration at the intersection of Lake Shore Boulevard East/Lower Jarvis Street/Gardiner Expressway Lower Jarvis is estimated at \$200,000.00.

The proposed road alterations are part of Engineering & Construction Services' Contract 19ECS-LU-19SU and can be accommodated within the Transportation Services 2021 Capital Budget in account CTP122-08.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

City Council, at its meeting on December 16, 17 and 18, 2020, authorized the General Manager, Transportation Services to execute a Project Delivery Agreement with Waterfront Toronto, on terms and conditions satisfactory to the General Manager, Transportation Services, and in a form satisfactory to the City Solicitor, for the reconstruction of Lake Shore Boulevard East between the Don River and Carlaw Avenue, including the Lake Shore Boulevard bridge and all required active transportation and public realm components. City Council directed City staff to continue working in consultation with Waterfront Toronto and the staff of the local Councillors' offices to coordinate and implement a public outreach and information program related to traffic mitigation for the duration of the project.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.IE18.3>

COMMENTS

Project Background

As part of the Port Lands Flood Protection Project (PLFP), Waterfront Toronto is implementing the recommendations of the approved Don Mouth Naturalization and Port Lands Flood Protection Environmental Assessment. The primary objective of this program is the provision of flood protection to the southeastern downtown area. A key

component of this program is the widening of the mouth of the Don River which requires lengthening the Lake Shore Boulevard East/Don River Bridge.

The Gardiner East Environmental Assessment (Gardiner EEA) completed by the City of Toronto and approved by the Ministry of Environment and Climate Change (MOECC) includes a reconfiguration of the Gardiner Expressway and Lake Shore Boulevard East in the area of the Don River.

In consideration of the significant synergies to be gained, City Council, at its meeting on December 16, 17 and 18, 2020 approved Waterfront Toronto to implement portions of the Gardiner EEA related to the Lake Shore Boulevard East/Don River Bridge in conjunction with their ongoing work in the PLFP. The combined scope includes closure and removal of the Gardiner East to Logan Avenue ramps, full reconstruction of the Lake Shore Don River Bridge and the reconstruction of Lake Shore Boulevard East, from the Don River to Carlaw Avenue.

Synergies realized through the concurrent implementation of both scopes include a significant reduction in the time of overall disruption and specifically traffic disruption, savings in costs, a reduction of the financial and logistical risks and improved safety considerations.

Existing Conditions

The Gardiner Expressway, near Lower Jarvis Street, is a six-lane expressway, with a posted speed limit of 90 km/h. The Expressway on and off-ramps run parallel to Lake Shore Boulevard East. The Gardiner off-ramp approaching Lower Jarvis Street consists of a dual eastbound (to northbound) left-turn lane and one through lane. At grade, the off-ramp and Lake Shore Boulevard East is separated by a median island. The average daily traffic is approximately 15,000 vehicles. The eastbound on-ramp from Lower Jarvis Street is accessed from the northerly eastbound lane on Lake Shore Boulevard East. The average daily traffic is approximately 6,500 vehicles.

Lake Shore Boulevard East is a six-lane major arterial roadway and operates as separate one-way roadways. The average daily traffic in each direction is approximately 17,000 vehicles. The posted speed limit is generally 60 km/h. Lake Shore Boulevard East approaching Lower Jarvis Street consists of two eastbound through lanes, with three receiving lanes, plus one traffic lane leading to the eastbound on-ramp.

Lower Jarvis Street is a four-lane major arterial roadway with a speed limit of 50 km/h. The average two-way daily traffic is approximately 20,000 vehicles. The Toronto Transit Commission service on Lower Jarvis Street is provided by the "75 Sherbourne" bus.

Traffic Mitigation Measures

A traffic assessment was undertaken to analyze the traffic impact to the overall road network and to develop traffic mitigation measures during and post construction. Based on the results of the study, the eastbound off-ramp at Lower Jarvis Street was identified as the key location for improvements. A significant increase in eastbound traffic volume is expected on the off-ramp at Lower Jarvis Street, due to the removal of Gardiner East

ramps at Logan Avenue. In order to accommodate the eastbound detour traffic from Gardiner Expressway, Transportation Services recommends reconfiguring the northerly eastbound lane to operate as a second through lane on the Lower Jarvis off-ramp. With the modifications in place, the eastbound off-ramp will consist of two eastbound left-turn lanes and two eastbound through lanes and Lake Shore Boulevard East will be reduced to a single eastbound through lane. This recommendation will increase the throughput capacity and mitigate potential queuing onto the Gardiner Expressway.

The intersection of Lake Shore Boulevard/Lower Jarvis Street/Gardiner Expressway Lower Jarvis Ramp is controlled by traffic signals. The eastbound approach lanes on the off-ramp operate on a fully protected phase, resulting in a split phase with the eastbound movements on Lake Shore Boulevard East. The purpose of the split phasing is to allow eastbound movements from Lake Shore Boulevard East to safely weave through two traffic lanes to access the on-ramp, with no conflicting movements from the off-ramp. In order to maximise the effectiveness and efficiency of the lane reconfiguration, removal of the split phasing is recommended. This will allow eastbound movements from the off-ramp and Lake Shore Boulevard East to cross the intersection simultaneously. Consequently, the weaving manoeuvre to access the on-ramp from Lake Shore Boulevard East will now conflict with eastbound movements from the off-ramp. Therefore, closure of the eastbound on-ramp from Lower Jarvis Street is recommended to eliminate any potential conflicts and unsafe manoeuvres.

Engineering & Construction Services division will replace the watermain and sewer on Lower Jarvis Street, from Queens Quay East to The Esplanade, from May 2021 to October 2021. A majority of the work will be located at the intersection of Lake Shore Boulevard East and Lower Jarvis Street. In an effort to coordinate the upcoming projects along Lake Shore Boulevard East, the off-ramp modifications will be constructed during the watermain replacement project, in advance of the Gardiner East access ramp removal planned for September 2021.

Gardiner Expressway Rehabilitation Strategy

As part of the Gardiner Expressway Rehabilitation Strategy, the proposed construction projects and associated timelines are described below:

Lower Yonge Precinct Project - 2024 to 2025

- Shortening the Lower Jarvis Street off-ramp to Yonge Street; and
- Removal of the Bay Street on-ramp to eastbound Gardiner Expressway.

Gardiner East EA Project - 2026 to 2030

- Construction of two new access ramps on the east side of Cherry Street, connecting the Gardiner Expressway with Lake Shore Boulevard East.

While the City has undertaken a review of the traffic impact analysis and construction sequencing for the above projects, the construction timelines are tentative and subject to change. Given this, consideration of and future recommendations regarding reverting the Lower Jarvis Street off-ramp modifications and eastbound on-ramp closure to pre-construction conditions will be addressed at a later date.

The Ward Councillor has been advised of the recommendations in this report.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Proposed Lane Reconfiguration - Lake Shore Boulevard East/Lower Jarvis Street/Gardiner Expressway Lower Jarvis Ramp

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